

Remarks

Status of the Application

Claims 1-15, 17-24, 27-35, and 37-42 are pending with the entry of this amendment. Claims 1-3, 6, 9-11, 14, 21, 29, 32 and 35 are amended herein.

The Amendments

The amendments to the claims do not add new matter to the application as originally filed.

The Objections to the Drawings

The drawings are objected to under 37 CFR § 1.83(a), for purportedly not showing every feature of the invention specified in the claims. Applicants respectfully traverse. An applicant “is required to furnish a drawing of his or her invention where necessary for the understanding of the subject matter sought to be patented.” 37 CFR § 1.81. In the instant case, one of ordinary skill in the art does not require an illustration in order to understand the claimed invention.

The first drawing objection relates to claim 7, and asserts that the drawings are deficient for not showing alignment members having a curved surface as recited in the claim. Alignment members are shown in Figures 1 and 2, for example, as reference numbers 25 and 30. The alignment members that are shown in the drawings happen to have rectangular edges. The specification, however, makes clear that the alignment members need not have rectangular edges, stating, for example, that alignment members can “have a curved surface that is in contact with a properly positioned object. The use of a curved surface minimizes the effect of, for example, roughness of the object surface that contacts the alignment member” (paragraph 00040).

The Office Action, by making this objection, asserts that one of ordinary skill in the art could not envision how to replace the illustrated alignment members having rectangular edges with alignment members that have curved edges. Applicants respectfully disagree. One of

ordinary skill in the art could easily envision using alignment members having a curved edge instead of the rectangular edges shown in the drawings. The same rationale applies for claim 8, which specifies a particular type of curved surface—a pin—that is suitable for use as an alignment member. Clearly, one of ordinary skill in the art can visualize a pin instead of the illustrated rectangular member without need of a drawing. There exists no requirement that a drawing show every possible variation of a structure when such variations are readily understood in the absence of a drawing. A drawing is thus not essential for one of ordinary skill in the art to understand the subject matter sought to be patented in claims 7 or 8, so the objections to these claims is unjustified and should be withdrawn.

The second drawing objection pertains to claims 29-34. Claim 29 is directed to automated systems for performing high throughput assays or reactions in microtiter plates in which the automated systems have a) a positioning device, and b) an additional component for performing high-throughput assays. Claims 30-34 recite that the additional components are a robotic device for placing microtiter plates (claims 30 and 33), a liquid dispenser (claims 31 and 34), a retaining device (claim 32). The Supreme Court long ago stated that an applicant “may begin at the point where his invention begins, and describe what he has made that is new, and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings.” *Webster Loom Co. v. Higgins*, 105 US 580, 586 (1881). Robotic devices for handling microtiter plates were common and well known to those of ordinary skill in the art at the time of Applicants’ priority date, as were liquid dispensers. These conventional features, standing apart from the positioning device invented by Applicants, are not part of Applicants’ invention. Thus, these well known, common components need not be illustrated in the drawings.

Because the current drawings meet the requirements of Rules 1.81 and 1.83, Applicants respectfully submit that the objections to the drawings are improper and should be withdrawn.

The 35 USC § 102 Rejections

Claims 1-9, 12 and 29-30 remain rejected under 35 USC § 102(b) as allegedly being anticipated by Norris (US 5,592,289). The instant Office Action points out that Applicants’

previous arguments were not persuasive because the claims are not limited to devices in which the inner wall of the microtiter plate is actually in contact with the positioning device. The Examiner points out that “it is only when the claim requires the microtiter plate to be positioned at the desired position with the alignment member(s) in contact with an inner wall of the microtiter plate that the teachings of the references do not anticipate the claims in this respect.” (Office Action, page 1). Applicants respectfully disagree. As discussed in their previous response, it is permissible to use terms in a claim that are relative to an object that is not recited in the claims (for example, the *Orthokinetics* claims directed to travel chairs satisfied 35 U.S.C. § 112, second paragraph even though the car was not positively recited in the claims). In the instant case, if the alignment members are not positioned in the appropriate location, the alignment members cannot contact an inner wall of a microtiter plate. Nevertheless, to expedite prosecution, Applicants have amended independent claims 1 and 29 to positively recite that not only is a microtiter plate an element of the claims, but also that the alignment member is in contact with an inner wall of the microtiter plate. Applicants reserve the right to pursue claims that lack this claim element in a divisional or continuation application.

With these amendments to recite the microtiter plate as a positive claim element and the contact between the inner wall of the microtiter plate and the alignment members, the claimed invention is distinguished from the device disclosed by Norris in that Applicants’ invention “comprises at least a first alignment member that protrudes from the support along the first axis and is in contact with an inner wall of the microtiter plate when the microtiter plate is in a desired position on the support” (claim 1, as amended herein). The device described by Norris has no such structural elements that are positioned to come into contact with an inner wall of a microtiter plate when a microtiter plate is placed on the device. Therefore, independent claims 1 and 29 are not anticipated by Norris. Each of the remaining rejected claims depends from claim 1 or claim 29, so these claims are likewise not anticipated by Norris.

Claims 1-2 and 12-15 and 17-18 remain rejected under 35 USC § 102(e) as allegedly being anticipated by Bevirt (US 6,063,579). As amended herein, independent claim 1 is directed to positioning devices that have an alignment member that is “in contact with an inner wall of the

microtiter plate.” This claim element is not described by Bevirt, so this ground of rejection should be withdrawn for each of rejected claims 1-2 and 12-13.

Claim 14, as amended herein, is directed to a retaining device for retaining a microtiter plate in a desired position on a support, wherein the retaining device comprises a vacuum plate and a microtiter plate that is placed on the vacuum plate, wherein the vacuum plate comprises: a) a lip surface that is in contact with an outer wall of the microtiter plate b) that is recessed relative to the lip surface and contacts a perimeter surface of a microtiter plate when the plate is placed in a desired position on the support, and c) a vacuum groove that is disposed between the lip surface and the interior surface. The interior surface is recessed relative to the lip surface. The Examiner asserted that the term “perimeter surface” is not well defined in Applicants’ specification. Applicants have amended claim 14 to replace the term “perimeter surface” with “outer wall.” Outer walls of microtiter plates are shown, for example, as reference numeral **84** in Figure 5 and described in paragraph 00041 of the specification.

The device described in Bevirt does not have each of the elements discussed above. As shown in Figure 5 of Bevirt (reproduced below), the outer wall of the microtiter plate is not in contact with any structure of the positioner. Nor does the Bevirt device have a vacuum groove that is disposed between the lip surface and the interior surface. Therefore, claim 14 as currently amended is not anticipated by Bevirt. Nor are claims 15, 17 or 18, each of which depends from claim 14.

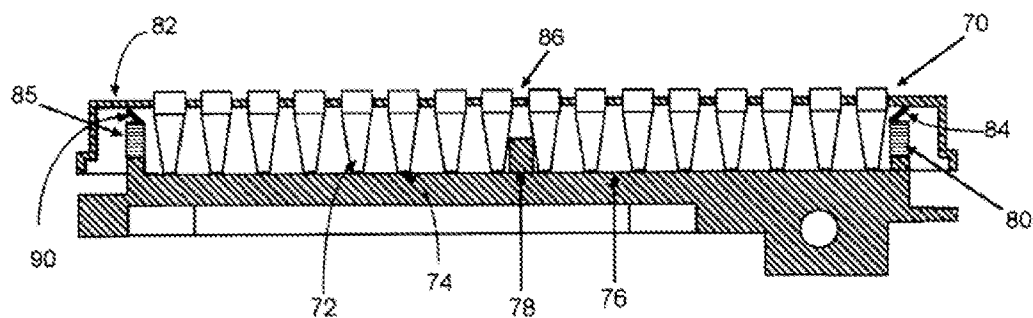


Fig. 5

Claims 1-12, 21-23, 29, 39-40 and 42 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Burton (WO 99/04228) or Modlin (US Patent No. 6,071,748). As these two references have equivalent disclosures, and to be consistent with the Office Action, Applicants' remarks below refer to the Modlin patent. Neither of the cited references describe a positioning device in which an alignment member is in contact with an inner wall of a microtiter plate, as is required by independent claims 1, 21 and 29, as currently amended. In contrast, the positioners described in the cited references have alignment members (shown in Fig. 22a-c as 604a,b and 606a,b) that contact the outer edges of the microtiter plate. See, e.g., column 20, lines 14-15 ("In analyzer **50**, long sides of the rectangular sample container are positioned against flanges **604a,b**"). The positioning arms in the device described by Modlin also contact an outer wall of the microtiter plate, and act to push the outer walls of the plate that are opposite the positioning arms against the flanges (see, e.g., column 21, lines 25-30: "Biasing spring **642a** pushes Y-axis positioning arm **622a** toward cavity **608**. Bumper **632** engages the sample container and pushes it away from body **602** until it abuts extensions **606a,b**. Biasing spring **642b** pushes X-axis positioning ann [sic, arm] **622b** toward cavity **608**. Edge **660** of second projection **658** engages the sample container and pushes it away from flange **604b** until it abuts flange **604a**"). Modlin does not describe any devices in which a positioner includes an alignment member that is in contact with an inner wall of a microtiter plate. For this reason, neither Modlin nor Burton anticipates claim 1, or any of claims 2-12 and 29, each of which also includes this claim limitation.

Claims 39-40 and 42 require that an alignment surface of an inner wall of a microtiter plate is placed adjacent with an alignment member. The Modlin reference does not describe such a method, as it does not describe any device in which an alignment member is capable of being placed adjacent to an inner wall of a microtiter plate. Therefore, these claims are not anticipated by Modlin.

The 35 USC § 103(a) Rejections

Claims 13-15, 17-20, 24, 27-28, 30-35, 37-38 and 41 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over Burton or Modlin, and further in view of Cathcart

(US 5,443,791), Markin (US 5,417,922) and Bevirt (US 6,063,579). Applicants respectfully traverse this rejection.

Claims 13, 24, 27-28, 30-31, 35, and 37-38 each depend from a claim that requires at least one alignment member that is in contact with an inner wall of the microtiter plate when the microtiter plate is in a desired position on a support. As discussed above, none of the cited Burton, Modlin, or Bevirt references teaches such a device. The Cathcart and Markin references likewise fail to teach such a device. Since not all claim elements are described in the cited references, the claims are not *prima facie* obvious.

Claims 14, 15, 17-20, and 32-34 each recite, or depend from a claim that recites, that the device comprises a vacuum plate that comprises a microtiter plate and a) a lip surface that is in contact with an outer wall of the microtiter plate b) that is recessed relative to the lip surface and contacts a perimeter surface of a microtiter plate when the plate is placed in a desired position on the support. The interior surface is recessed relative to the lip surface. Neither Burton nor Modlin describe a device that has such a structure, as discussed above. The Bevirt, Markin and Cathcart references likewise fail to teach a device having the claimed structure. Consequently, these claims are not obvious over the cited references.

Conclusion

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for examination. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned attorney at 858-812-1547.

Respectfully submitted,

/Timothy L. Smith/

Timothy L. Smith, Ph.D.
Reg. No. 35,367

GENOMICS INSTITUTE OF THE NOVARTIS RESEARCH FOUNDATION
10675 John Jay Hopkins Drive, Suite E225
San Diego, CA 92121
Tel: (858) 812-1547
Fax: (858) 812-1981